MicroRNAs in Human Stem Cell Differentiation and Mental Disorders

Grant Award Details

MicroRNAs in Human Stem Cell Differentiation and Mental Disorders

Grant Type: SEED Grant

Grant Number: RS1-00462

Investigator:

Name:	Fen-Biao Gao
Institution:	Gladstone Institutes, J. David
Type:	PI

Disease Focus: Autism, Developmental Disorders, Neurological Disorders

Human Stem Cell Use: Embryonic Stem Cell

Award Value: $748,800

Status: Closed

Progress Reports

Reporting Period: Year 2

View Report

Grant Application Details

Application Title: MicroRNAs in Human Stem Cell Differentiation and Mental Disorders

Public Abstract:	Many mental disorders are closely associated with problems that occur during brain development in early life. For instance, by 2 years of age, autistic children have larger brains than normal kids, likely due to, at least in part, excess production of neurons and support cells, the building blocks of the nervous system. In autistic brains, how neurons grow various thread-like processes also shows some abnormalities. The cause of autism is complex and likely involves many genetic factors. These developmental defects are also associated with mental disorders caused by single-gene mutations, such as Rett syndrome and fragile X syndrome, the most common form of inherited mental retardation, whose clinical features overlap with autism. However, what causes the developmental defects in brains of children with different mental disorders is largely unknown. In recent years, an exciting new regulatory pathway was discovered that may well contribute to the etiology of mental disorders. The major player in this novel pathway is a class of tiny molecules 21
Statement of Benefit to California:	California is the most populated state in the US and has a large number of patients suffering from various mental disorders. The proposed studies in this grant application will contribute to the mission of developing novel avenues through stem cell research for the diagnosis, prevention and treatment of mental disorders

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